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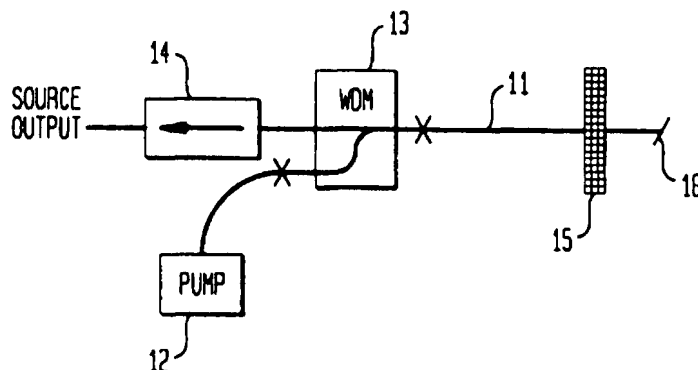
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(54) **High power multiwavelength light source**

(57) A multi-wavelength light source comprises a length of optical waveguide 11 including an optical amplifier such as a length of rare-earth (e.g. erbium) doped fibre. At one end of the amplifier waveguide 11 is a multi-wavelength reflector 15 such as an array of reflective Bragg gratings, conveniently an array of reflective Bragg gratings

formed in the waveguide. A source of broadband light, preferably consisting of the amplifier waveguide itself, coupled to a pumping source 12 to provide amplified stimulated emission, is directed towards the reflector 15. Multi-wavelength light is reflected by the reflector 15 and passes through the amplifier waveguide 11 a second time.

**FIG. 1**



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# EUROPEAN SEARCH REPORT

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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.CI.8)  H01S
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>26 July 2001</b>	Examiner <b>Galanti, M</b>
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent documents, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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